

## ABSTRACT

Described is a method and system that enables open, non-proprietary and extensible visualization and modeling tools by providing multiple-way negotiations between model element end points (nodes) and a connecting model element (arc). Based on these negotiations, a user is guided to make appropriate interconnections between model elements. A protocol is provided for intelligent model elements (objects) to communicate their information to one another, e.g., an arc communicates its capabilities and requirements to a node, and vice-versa, whereby the model element objects themselves decide whether they can interconnect, and if so, how they need to interconnect. The objects themselves enforce semantics and rules. According to the protocol, either object can reject the interconnection (break off the negotiation) with the other object if it determines it is not compatible with the other object, or is otherwise unable to connect to it.